

CLAIMS

What is claimed is:

1. A method of optical fiber manufacture comprising the steps of:
directing a first laser beam on a first locality of an optical fiber having a circumference;
directing a second laser beam on a second locality of the optical fiber circumferentially displaced from the first locality; and
forming a grating on the optical fiber.
2. The method of optical fiber manufacture of Claim 1 wherein the first laser beam comprises the second laser beam.
3. The method of optical fiber manufacture of Claim 1 wherein at least one of the laser beams heats the optical fiber to form the grating.
4. The method of optical fiber manufacture of Claim 3 wherein the optical fiber is deformed about one of the localities.
5. The method of optical fiber manufacture of Claim 1 wherein at least one of the laser beams arises from a carbon dioxide laser source.
6. The method of optical fiber manufacture of Claim 1 wherein at least one of the laser beams arises from an infrared laser source.
7. The method of optical fiber manufacture of Claim 1 wherein at least one of the laser beams traces at least in part a scanning pattern.
8. The method of optical fiber manufacture of Claim 7 wherein at least one of the laser beams arises from a laser source activated at predetermined points of the scanning pattern.

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9. The method of optical fiber manufacture of Claim 1 wherein the optical fiber comprises a transmission layer and a cladding layer.

10. The method of optical fiber manufacture of Claim 9 wherein at least two gratings are formed.

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11. A system for optical fiber manufacture comprising:
a laser source;
a first turning mirror having a first reflective face for receiving a first laser beam from said laser source and for reflecting said first laser beam on an optical fiber having a circumference; and
a second turning mirror having a second reflective face for receiving a second laser beam from said laser source and for reflecting said second laser beam on said optical fiber.
12. The system for optical fiber manufacture of claim 11 wherein said first laser beam comprises said second laser beam.
13. The system of claim 11 wherein said first reflective face at least partially faces said second reflective face.
14. The system of claim 11 wherein each of said turning mirrors generally directs a laser along the same axis.
15. The system of claim 14 wherein at least one of said turning mirrors is angled about 45 degrees relative to said axis.
16. The system of claim 11 wherein said first turning mirror directs said first laser beam on a first locality of said optical fiber and said second turning mirror directs a second laser beam on a second locality circumferentially displaced from said first locality.
17. The system of claim 11 including at least one scanning mirror directing at least one of said laser beams on at least one of said turning mirrors.

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18. The system of claim 17 wherein said at least one scanning mirror comprises a first scanning mirror having a first reflective face and a second scanning mirror having a second reflective face.

19. The system of claim 17 wherein a computer controls said at least one scanning mirror.

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20. An optical fiber made by a process comprising the steps of:
- directing a first laser beam on a first locality of an optical fiber having a circumference;
 - directing a second laser beam on a second locality of the optical fiber circumferentially displaced from the first locality; and
 - forming a grating on the optical fiber.

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